Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Use of imaging studies for low back pain: percentage of members with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, MRI, CT scan) within 28 days of the diagnosis.

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of members with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, magnetic resonance imaging [MRI], computed tomography [CT] scan) within 28 days of the diagnosis.

The measure is reported as an inverted rate (1 - [numerator/denominator]). A higher score indicates appropriate treatment of low back pain (i.e., the proportion for whom imaging studies did not occur).

Rationale

Low back pain is a pervasive problem that affects two thirds of adults at some time in their lives. It ranks among the top 10 reasons for patient visits to internists and is the most common and expensive reason for work disability in the United States (U.S.) (Jarvik & Deyo, 2002). Back problems are second only to cough among symptoms of people who seek medical care at physician offices, outpatient departments and emergency rooms (Center for the Advancement of Health, 2000).

Back pain is among the most common musculoskeletal conditions, afflicting approximately 31 million Americans, and is the number one cause of activity limitation in young adults. For most individuals, back pain quickly improves. Nevertheless, approximately 15 percent of the U.S. population reports having frequent low back pain that lasted for at least two weeks during the previous year. Persistent pain that lasts beyond 3 to 6 months occurs in only 5 to 10 percent of patients with low back pain (Lawrence et al., 1998). According to the American College of Radiology (n.d.), uncomplicated low back pain is a benign, self-limited condition that does not warrant any imaging studies. The majority of patients are back to their usual activities in 30 days.

There is no compelling evidence to justify substantial deviation from the diagnostic strategy published in clinical guidelines, which indicate that for most patients with acute low back pain, diagnostic imaging is usually unnecessary. Although patients may have a perceived need for imaging studies, efforts to educate patients on appropriate indications for imaging are within a provider's capacity.

Evidence for Rationale

American College of Radiology. ACR appropriateness criteria. Acute low back pain-radiculopathy. Reston (VA): American College of Radiology; various p.

Center for the Advancement of Health. Chronic back pain yields to collaborative team approach. Facts Life. 2000 Jan;5(1):online.

Jarvik JG, Deyo RA. Diagnostic evaluation of low back pain with emphasis on imaging. Ann Intern Med. 2002 Oct 1;137(7):586-97. [93 references] PubMed

Lawrence RC, Helmick CG, Arnett FC, Deyo RA, Felson DT, Giannini EH, Heyse SP, Hirsch R, Hochberg MC, Hunder GG, Liang MH, Pillemer SR, Steen VD, Wolfe F. Estimates of the prevalence of arthritis and selected musculoskeletal disorders in the United States. Arthritis Rheum. 1998 May;41(5):778-99. PubMed

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Primary Health Components

Low back pain; imaging studies; plain x-ray; magnetic resonance imaging (MRI); computed tomography (CT) scan

Denominator Description

Members age 18 years as of January 1 of the measurement year to 50 years as of December 31 of the measurement year, with a Negative Diagnosis History, who had an outpatient or emergency department (ED) visit with a primary diagnosis of low back pain (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

An imaging study with a diagnosis of low back pain on the Index Episode Start Date (IESD) or in the 28 days following the IESD (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Low back pain affects three-quarters of adults at some time in their lives (Chou, Deyo, & Jarvik, 2012). Each year, 25 to 50 percent of American adults experience low back pain, making it one of the most common reasons for seeking health care services (Haldeman & Dagenais, 2008). Evidence shows that many patients diagnosed with low back pain receive excessive imaging, which can lead to unnecessary worry and unneeded surgery for these patients.
- Total direct costs of chronic low back pain-related health care in a study of 39,425 patients were estimated to be $96 million during one year (Mehra et al., 2012).
- Low back pain imaging before 28 days and without any red flags will not improve clinical outcomes or benefit the patient (Chou et al., 2009).
- For the great majority of individuals who experience severe low back pain, pain improves within the first two weeks of onset (Goertz et al., 2012). Avoiding imaging (i.e., x-ray, magnetic resonance imaging [MRI], computed tomography [CT] scans) among patients for whom there is no clinical necessity can prevent unnecessary harm to patients and reduce health care costs.

Evidence for Additional Information Supporting Need for the Measure

Chou R, Deyo RA, Jarvik JG. Appropriate use of lumbar imaging for evaluation of low back pain. Radiol Clin North Am. 2012 Jul;50(4):569-85. PubMed

Chou R, Fu R, Carrino JA, Deyo RA. Imaging strategies for low-back pain: systematic review and meta-analysis. Lancet. 2009 Feb 7;373(9662):463-72.

Goertz M, Thorson D, Bonsell J, Bonte B, Campbell R, Haake B, Johnson K, Kramer C, Mueller B, Peterson S, Setterlund L, Timming R. Adult acute and subacute low back pain. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Nov. 91 p. [133 references]

Haldeman S, Dagenais S. A supermarket approach to the evidence-informed management of chronic low back pain. Spine J. 2008 Jan;8(1):1-7. [10 references]

Mehra M, Hill K, Nicholl D, Schadrack J. The burden of chronic low back pain with and without a neuropathic component: a healthcare resource use and cost analysis. J Med Econ. 2012;15(2):245-52. PubMed

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Ambulatory Procedure/Imaging Center

Emergency Department

Hospital Inpatient

Hospital Outpatient

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age 18 to 50 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

January 1 to December 3 of the measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Members age 18 years as of January 1 of the measurement year to 50 years as of December 31 of the measurement year, with a Negative Diagnosis History, who had an outpatient visit (Outpatient Value Set), an observation visit (Observation Value Set), an emergency department (ED) visit (ED Value Set), or osteopathic manipulative treatment (Osteopathic Manipulative Treatment Value Set), with a principal diagnosis of low back pain (Low Back Pain Value Set), during the Intake Period

Note:

> Members must have been continuously enrolled 180 days (6 months) prior to the Index Episode Start Date (IESD) through 28 days after the IESD with no gaps in enrollment during the continuous enrollment period.
> *Negative Diagnosis History*: A period of 180 days (6 months) prior to the IESD during which time the member had no claims/encounters with any diagnosis of low back pain.
> *IESD*: The earliest date of service for an outpatient or ED encounter during the Intake Period with a principal diagnosis of low back pain. If the member had more than one encounter, include only the first encounter.
> *Intake Period*: January 1 to December 3 of the measurement year. The Intake Period is used to identify the first outpatient or ED encounter with a primary diagnosis of low back pain.

Refer to the original measure documentation for steps to identify the eligible population.

Exclusions

- Exclude members with a diagnosis of low back pain (Low Back Pain Value Set) during the 180 days (6 months) prior to the IESD.
- Exclude any member who had a diagnosis for which imaging is clinically appropriate. Any of the following meet criteria:
  - *Cancer*: Cancer any time during the member's history through 28 days after the IESD. Any of the following meet criteria:
    - Malignant Neoplasms Value Set
    - Other Neoplasms Value Set
    - History of Malignant Neoplasm Value Set
  - *Recent Trauma*: Trauma (Trauma Value Set) anytime during the 12 months (1 year) prior to the IESD through 28 days after the IESD.
  - *Intravenous (IV) Drug Abuse*: IV drug abuse (IV Drug Abuse Value Set) anytime during the 12 months (1 year) prior to the IESD through 28 days after the IESD.
  - *Neurologic Impairment*: Neurologic impairment (Neurologic Impairment Value Set) anytime during the 12 months (1 year) prior to the IESD through 28 days after the IESD.
- Do not include ED visits that result in an inpatient admission.

Value Set Information
Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set

Directory.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
An imaging study (Imaging Study Value Set) with a diagnosis of low back pain (Low Back Pain Value Set) on the Index Episode Start Date (IESD) or in the 28 days following the IESD

Exclusions
Unspecified

Value Set Information
Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

This measure requires that separate rates be reported for commercial and Medicaid plans.

Standard of Comparison

not defined yet

Identifying Information

Original Title

Use of imaging studies for low back pain (LBP).

Measure Collection Name

HEDIS 2016: Health Plan Collection

Measure Set Name

Effectiveness of Care

Measure Subset Name

Overuse/Appropriateness

Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed

of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

Financial Disclosures/Other Potential Conflicts of Interest

In order to fulfill National Committee for Quality Assurance's (NCQA's) mission and vision of improving health care quality through measurement, transparency and accountability, all participants in NCQA's expert panels are required to disclose potential conflicts of interest prior to their participation. The goal of this Conflict Policy is to ensure that decisions which impact development of NCQA's products and services are made as objectively as possible, without improper bias or influence.

Core Quality Measures

Accountable Care Organizations (ACOs), Patient Centered Medical Homes (PCMH), and Primary Care

Measure Initiative(s)

Physician Quality Reporting System

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.
National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

Measure Availability

Source available for purchase from the National Committee for Quality Measurement (NCQA) Web site .

For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org .

NQMC Status

This NQMC summary was completed by ECRI on May 25, 2005. The information was verified by the measure developer on December 15, 2005.

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Copyright Statement

Production

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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